I.   AMENDMENTS TO THE CLAIMS:

Kindly amend claims 36 and 49-53 as follows.

The following claims will replace all prior versions of claims in the above-captioned application.

LISTING OF THE CLAIMS:

Claim 1 has been cancelled.

2.   (Withdrawn) A method of building a tree data structure on a storage device comprising:

a step of assigning unique sequential integers to nodes including a root node to define the nodes; and

a step of creating an array containing integers assigned to parent nodes of non-root nodes in the order of the integers assigned to the non-root nodes on the storage device to define a parent-child relationship among the nodes, said non-root nodes being nodes other than the root node.

Claims 3 – 6 have been cancelled.

7.   (Withdrawn) A method of building a tree data structure on a storage device, comprising:

a node definition step of assigning unique sequential numbers to nodes including a root node while giving priority to child nodes of a certain node rather than nodes in the same generation as the certain node; and

a parent-child relationship definition step of storing in the storage device an array formed by arranging the numbers assigned to parent nodes of non-root nodes in the order of numbers assigned to the non-root nodes, said non-root nodes being nodes other than the root node, wherein the node definition step comprises:

a step of initially assigning a number to the root node;

a step of assigning a particular number to a single child node of one parent node when the one parent node has been already assigned a number and has only the single child node, said particular number immediately succeeding the number assigned to the one parent node; and

a step of assigning numbers to a plurality of child nodes of another parent node from a first child node to a last child node among the plurality of the child nodes in such a manner that a younger sibling node is assigned its number after all child nodes of an immediate older sibling node are assigned their numbers when said another parent node has been already assigned a number and has the plurality of the child nodes.

Claim 8 has been cancelled.

9. (Withdrawn) A method of building a tree data structure on a storage device comprising:

a node definition step of assigning unique sequential numbers to nodes including a root node while giving priority to nodes in the same generation as a certain node rather than child nodes of the certain node; and

a parent-child relationship definition step of storing in the storage device an array formed by arranging the numbers assigned to parent nodes of respective non-root nodes in the

order of numbers assigned to the non-root nodes, said non-root nodes being nodes other than the root node, wherein the node definition step comprises:

a step of calculating a generation number from the root node for each node and a count of nodes belonging to each generation;

a step of initially assigning a number to the root node; and

a step of assigning numbers to all nodes in a generation succeeding a current generation until there are no nodes left unassigned in such a manner that the nodes from different parent nodes are assigned respective numbers in the order in which their parent nodes have been assigned respective numbers, on one hand, and that a plurality of nodes originating from an identical parent node are assigned their respective numbers from a first sibling node to a last sibling node by defining a sibling relationship among the plurality of the nodes.

Claim 10 has been cancelled.

11. (Withdrawn) The method according to claim 7, further comprising a step of extracting sequential areas in which values above a number assigned to some node are stored from the array, thereby specifying all descendant nodes of the node concerned.

12. (Withdrawn) The method according to claim 9, further comprising a step of extracting sequential areas where the same value as a number assigned to some node is stored from the array, thereby specifying all child nodes of the node concerned.

13. (Withdrawn) A method of building a tree data structure on a storage device comprising:

a step of uniquely assigning sequentially varying numbers to all nodes while starting from a root node; and

a step of defining parent-child relationship among nodes, wherein the step of uniquely assigning the numbers to all the nodes comprises:

a step of selecting a mode for assigning numbers to nodes between a depth-first mode for assigning numbers to child nodes of a certain node earlier than nodes in the same generation as the certain node and a width-first mode for assigning numbers to nodes in the same generation as a certain node earlier than child nodes of the certain node;

a step of retrieving the nodes in the depth-first mode when the depth-first mode is selected, and assigning the numbers to the nodes in retrieval order; and

a step of retrieving the nodes in the width-first mode when the width-first mode is selected, and assigning the numbers to the nodes in retrieval order,

wherein the step of defining the parent-child relationship among the nodes includes a step of storing numbers assigned to parent nodes in the storage device in the order of numbers assigned to child nodes corresponding to the respective parent nodes.

14. (Withdrawn) The method according to claim 13, wherein the step of defining the parent-child relationship among the nodes comprises:

a step of selecting a mode for defining the parent-child relationship among the nodes between a child-parent expression mode for defining the relationship from a child node to a parent node and a parent-child expression mode for defining the relationship from a parent node to a child node;

a step of storing numbers assigned to parent nodes in the storage device in the order of numbers assigned to child nodes corresponding to the respective parent nodes when the child-parent expression mode is selected; and

a step of storing numbers assigned to child nodes in the storage device in the order of numbers assigned to parent nodes corresponding to the respective child nodes when the parent-child expression mode is selected.

15. (Previously Presented) A method of converting an expression form of a tree data structure represented by using parent-child relationship on a storage device, the parent-child relationship being defined by storing numbers assigned to parent nodes in the storage device in the order of numbers assigned to child nodes corresponding to the respective parent nodes, comprising:

a step of calculating a generation number for each node in the tree data structure expressed in a depth-first mode for assigning numbers to nodes in the same generation as a certain node earlier than child nodes of the certain node, and a count of nodes belonging to each generation;

a step of determining numbers assigned to nodes in each generation on the basis of the count of the nodes belonging to each generation when the numbers are assigned in a width-first mode for assigning numbers to child nodes of a certain node earlier than nodes in the same generation as the certain node;

a step of creating a conversion array for converting the numbers assigned to the respective nodes in the depth-first mode to numbers to be assigned to the nodes in the width-first mode on the basis of the calculated generation number for each node and the determined numbers assigned to the nodes in each generation; and

a step of converting the parent-child relationship for each node to another parent-child relationship expressed by the numbers assigned to the nodes in the width-first mode by using the conversion array.

16. (Previously Presented) A method of converting an expression form of a tree data structure represented by using parent-child relationship on a storage device, the parent-child relationship being defined by storing numbers assigned to parent nodes in the storage device in the order of numbers assigned to child nodes corresponding to the respective parent nodes, comprising:

a step of counting a count of descendant nodes of each node in the tree data structure expressed in a width-first mode for assigning numbers to child nodes of a certain node earlier than nodes in the same generation as the certain node;

a step of creating a conversion array for converting the numbers assigned to the respective nodes in the width-first mode to numbers to be assigned to the nodes in a depth-first mode for assigning numbers to child nodes of a certain node earlier than nodes in the same generation as the certain node, wherein the number to be assigned to current node is calculated by adding a count of older sibling nodes which originate from the same parent node as the current node and have been assigned their numbers earlier than the current node and a count of descendant nodes of the respective older sibling node to the number to be assigned to the parent node of the current node; and

a step of converting the parent-child relationship for each node to another parent-child relationship expressed by the numbers assigned to the nodes in the depth-first mode by using the conversion array.

17. (Previously Presented) A method of converting an expression form of a tree data structure represented by using parent-child relationship on a storage device, the parent-child relationship being defined by storing numbers assigned to parent nodes in the storage device in the order of numbers assigned to child nodes corresponding to the respective parent nodes, comprising:

a step of retrieving nodes in a depth-first order from the tree data structure expressed in a width-first mode for assigning numbers to child nodes of a certain node earlier than nodes in the same generation as the certain node, and creating a conversion array for converting the numbers assigned to the nodes in the width-first mode to numbers to be assigned to the nodes in a depth-first mode for assigning numbers to nodes in the same generation as a certain node earlier than child nodes of the certain node; and

a step of converting the parent-child relationship for each node to another parent-child relationship expressed by the numbers assigned to the nodes in the depth-first mode by using the conversion array.

18. (Previously Presented) A method of converting an expression form of a tree data structure represented by using parent-child relationship on a storage device, the parent-child relationship being defined by storing numbers assigned to parent nodes as elements of a first array in the storage device in the order of numbers assigned to child node corresponding to the respective parent nodes, comprising:

a step of counting an occurrence count of the numbers assigned to each node as an element of the first array;

a step of reserving consecutive locations corresponding to the counted occurrence count in the storage device as a second array in order to store numbers assigned to child nodes corresponding to each node; and

a step of successively reading the elements from the first array, and successively storing the numbers assigned to the child nodes corresponding to the elements in the first array as elements of the second array reserved for the nodes to which numbers having values equal to the read elements are assigned.

19. (Previously Presented) A method of converting an expression form of a tree data structure represented by using parent-child relationship on a storage device, the parent-child relationship being defined by storing numbers assigned to child nodes as elements of a first array in the storage device in the order of numbers assigned to parent nodes corresponding to the respective child nodes, comprising:

a step of reserving a second array in the storage device in order to store numbers assigned to the parent nodes corresponding to the respective child nodes in the order of the numbers assigned to the child nodes; and

a step of successively reading the elements from the first array and successively storing the numbers assigned to the parent nodes corresponding to the elements in the first array as elements of the second array reserved for the nodes to which numbers having values equal to the read elements are assigned.

20. (Withdrawn) An information processing device of building a tree data structure on a storage device comprising:

node definition means for assigning unique node sequential integers to nodes including a root node; and

parent-child relationship definition means for creating an array containing integers assigned to parent nodes of non-root nodes in the order of the integers assigned to the non-root nodes on the storage device to define a parent-child relationship among the nodes, said non-root nodes being nodes other than the root node.

Claims 21 –23 have been cancelled.

24. (Withdrawn) An information processing device of building a tree data structure on a storage device, comprising:

node definition means for assigning unique sequential numbers to nodes including a root node while giving priority to child nodes of a certain node rather than nodes in the same generation as the certain node; and

parent-child relationship definition means for storing in the storage device an array formed by arranging the numbers assigned to parent nodes of non-root nodes in the order of numbers assigned to the non-root nodes, said non-root nodes being nodes other than the root node, wherein the node definition means comprises:

means for initially assigning a number to the root node;

means for assigning a particular number to a single child node of one parent node when the one parent node has been already assigned a number and has only the single child node, said particular number immediately succeeding the number assigned to the one parent node; and

means for assigning numbers to a plurality of child nodes of another parent node from a first child node to a last child node among the plurality of the child nodes in such a manner that a younger sibling node is assigned its number after all child nodes of an immediate older sibling node are assigned their numbers when said another parent node has been already assigned a number and has the plurality of the child nodes.

Claim 25 has been cancelled.

26. (Withdrawn) An information processing device of building a tree data structure on a storage device comprising:

node definition means for assigning unique sequential numbers to nodes including a root node while giving priority to nodes in the same generation as a certain node rather than child nodes of the certain node; and

parent-child relationship definition means for storing in the storage device an array formed by arranging the numbers assigned to parent nodes of respective non-root nodes in the order of numbers assigned to the non-root nodes, said non-root nodes being nodes other than the root node, wherein the node definition means comprises:

means for calculating a generation number from the root node for each node and a count of nodes belonging to each generation;

means for initially assigning a number to the root node; and

means for assigning numbers to all nodes in a generation succeeding a current generation until there are no nodes left unassigned in such a manner that the nodes from different parent nodes are assigned respective numbers in the order in which their parent nodes have been assigned respective numbers, on one hand, and that a plurality of nodes originating from an identical parent node are assigned their respective numbers from a first sibling node to a last sibling node by defining a sibling relationship among the plurality of the nodes.

Claim 27 has been cancelled.

28. (Withdrawn) The information processing device according to claim 24, further comprising means for extracting from the array sequential areas in which values above number assigned to some node are stored from the array, thereby specifying all descendant nodes of the node concerned.

29. (Withdrawn) The information processing device according to claim 26, further comprising means for extracting from the array sequential areas where the same value as a number assigned to some node is stored, thereby specifying all child nodes of the node concerned.

30. (Withdrawn) An information processing device of building a tree data structure on a storage device comprising:

means for uniquely assigning sequentially varying numbers to all nodes while starting from a root node; and

means for defining parent-child relationship among nodes, wherein the means for uniquely assigning the numbers to all the nodes comprises:

means for selecting a mode for assigning numbers to nodes between a depth-first mode for assigning numbers to child nodes of a certain node earlier than nodes in the same generation as the certain node and a width-first mode for assigning numbers to nodes in the same generation as a certain node earlier than child nodes of the certain node;

means for retrieving the nodes in the depth-first mode when the depth-first mode is selected, and assigning the numbers to the nodes in retrieval order; and

means for retrieving the nodes in the width-first mode when the width-first mode is selected, and assigning the numbers to the nodes in retrieval order,

wherein the means for defining the parent-child relationship among the nodes includes means for storing numbers assigned to parent nodes in the storage device in the order of numbers assigned to child nodes corresponding to the respective parent nodes.

31. (Withdrawn) The information processing device according to claim 30, wherein the means for defining the parent-child relationship among the nodes comprises:

means for selecting a mode for defining the parent-child relationship among the nodes between a child-parent expression mode for defining the relationship from a child node to a parent node and a parent-child expression mode for defining the relationship from a parent node to a child node;

means for storing numbers assigned to parent nodes in the storage device in the order of numbers assigned to child nodes corresponding to the respective parent nodes when the child-parent expression mode is selected; and

means for storing numbers assigned to child nodes in the storage device in the order of numbers assigned to parent nodes corresponding to the respective child nodes when the parent-child expression mode is selected.

32. (Previously Presented) An information processing device of converting an expression form of a tree data structure represented by using parent-child relationship on a storage device, said storage device holding the parent-child relationship defined by assigning numbers to parent nodes in the order of numbers assigned to child nodes corresponding to the respective parent nodes, comprising:

means for calculating a generation number for each node in the tree data structure expressed in a depth-first mode for assigning numbers to nodes in the same generation as a certain node earlier than child nodes of the certain node, and counting a count of nodes belonging to each generation;

means for determining numbers assigned to nodes in each generation on the basis of the count of the nodes belonging to each generation when the numbers are assigned in a width-first mode for assigning numbers to child nodes of a certain node earlier than nodes in the same generation as the certain node;

means for creating a conversion array for converting the numbers assigned to the respective nodes in the depth-first mode to numbers to be assigned in the width-first mode on the basis of the calculated generation number for each node and the determined numbers assigned to the nodes in each generation; and

means for converting the parent-child relationship for each node to another parent-child relationship expressed by the numbers assigned to the nodes in the width-first mode by using the conversion array.

33. (Previously Presented) An information processing device of converting an expression form of a tree data structure represented by using parent-child relationship on a storage device, said storage device holding the parent-child relationship defined by assigning numbers to parent nodes in the order of numbers assigned to child nodes corresponding to the respective parent nodes, comprising:

means for counting a count of descendant nodes of each node in the tree data structure expressed in a width-first mode for assigning numbers to child nodes of a certain node earlier than nodes in the same generation as the certain node;

means for creating a conversion array for converting the numbers assigned to the respective nodes in the width-first mode to numbers to be assigned to the nodes in a depth-first mode for assigning numbers to child nodes of a certain node earlier than nodes in the same generation as the certain node, wherein the number to be assigned to current node is calculated by adding a count of older sibling nodes which originate from the same parent node as the current node and have been assigned their numbers earlier than the current node and a count of descendant nodes of the respective older sibling node to the number to be assigned to the parent node of the current node; and

means for converting the parent-child relationship for each node to another parent-child relationship expressed by the numbers assigned to the nodes in the depth-first mode by using the conversion array.

34. (Previously Presented) An information processing device of converting an expression form of a tree data structure represented by using parent-child relationship on a storage device, said storage device holding the parent-child relationship defined by assigning numbers to parent nodes in the order of numbers assigned to child nodes corresponding to the respective parent nodes, comprising:

means for retrieving nodes in a depth-first order from the tree data structure expressed in a width-first mode for assigning numbers to child nodes of a certain node earlier than nodes in the same generation as the certain node, and creating a conversion array for converting the numbers assigned to the nodes in the width-first mode to numbers to be assigned to the nodes in a depth-first mode for assigning numbers to nodes in the same generation as a certain node earlier than child nodes of the certain node; and

means for converting the parent-child relationship for each node to another parent-child relationship expressed by the numbers assigned to the nodes in the depth-first mode by using the conversion array.

35. (Previously Presented) An information processing device of converting an expression form of a tree data structure represented by using parent-child relationship on a storage device, wherein the storage device holds numbers assigned to parent nodes as elements of a first array defining the parent-child relationship in the order of numbers assigned to child node corresponding to the respective parent nodes, and said device comprises:

means for counting an occurrence count of the numbers assigned to each node as an element of the first array;

means for reserving consecutive locations corresponding to the counted occurrence count in the storage device as a second array in order to store numbers assigned to child nodes corresponding to each node; and

means for successively reading the elements from the first array, and successively storing the numbers assigned to the child nodes corresponding to the elements in the first array as elements of the second array reserved for the nodes to which numbers having values equal to the read elements are assigned.

36. (Currently Amended) An information processing device of converting an expression form of a tree data structure represented by using parent-child relationship on a storage device, wherein the storage device holds numbers assigned to child nodes as elements of a first array defining the parent-child relationship in the order of numbers assigned to parent node corresponding to the respective child nodes,, and said device comprises:

means for reserving a second array in the storage device in order to store numbers assigned to the parent nodes corresponding to the respective child nodes in the order of the numbers assigned to the child nodes; and

means for successively reading the elements from the first array and successively storing the numbers assigned to the parent nodes <u>corresponding</u>~~corresponsing~~ to the elements in the first array as elements of the second array reserved for the nodes to which numbers having values equal to the read elements are assigned.

37. (Withdrawn) A program for making a computer of building a tree data structure on a storage device execute:

a node definition function of assigning unique sequential integers to nodes including a root node; and

a parent-child relationship definition function of creating an array containing integers assigned to parent nodes of non-root nodes in the order of the integers assigned to the non-root nodes on the storage device to define a parent-child relationship among the nodes, said non-root nodes being nodes other than the root node.

Claims 38-40 have been cancelled.

41. (Withdrawn) A program for making a computer of building a tree data structure on a storage device execute:

a node definition function of assigning unique sequential numbers to nodes including a root node while giving priority to child nodes of a certain node rather than nodes in the same generation as the certain node; and

a parent-child relationship definition function of storing in the storage device an array formed by arranging the numbers assigned to parent nodes of non-root nodes in the order of numbers assigned to the non-root nodes, said non-root nodes being nodes other than the root node, wherein the node definition function comprises:

a function of initially assigning a number to the root node;

a function of assigning a particular number to a single child node of one parent node when the one parent has been already assigned a number and has only the single child node, said particular number immediately succeeding the number assigned to the one parent node; and

a function of assigning numbers to a plurality of child nodes of another parent node from a first child node to a last child node among the plurality of the child nodes in such a

manner that a younger sibling node is assigned its number after all child nodes of an immediate older sibling node are assigned their numbers when said another parent node has been already assigned a number and has the plurality of the child nodes.

Claim 42 has been cancelled.

43. (Withdrawn) A program making a computer of building a tree data structure on a storage device execute:

a node definition function of assigning unique sequential numbers to nodes including a root node while giving priority to nodes in the same generation as a certain node rather than child nodes of the certain node; and

a parent-child relationship definition function of storing in the storage device an array formed by arranging the numbers assigned to parent nodes of respective non-root nodes in the order of numbers assigned to the non-root nodes, said non-root nodes being nodes other than the root node, wherein the node definition function comprises:

a function of calculating a generation number from the root node for each node and a count of nodes belonging to each generation;

a function of initially assigning a number to the root node; and

a function of assigning numbers to all nodes in a generation succeeding a current generation until there are no nodes left unassigned in such a manner that the nodes from different parent nodes are assigned respective numbers in the order in which their parent nodes have been assigned respective numbers, on one hand, and that a plurality of nodes originating from an identical parent node are assigned their respective numbers from a first sibling node to a last sibling node by defining a sibling relationship among the plurality of the nodes.

Claim 44 has been cancelled.

45. (Withdrawn) The program according to claim 41, further comprising a function of extracting sequential areas in which values above a number assigned to some node are stored from the array, thereby specifying all descendant nodes of the node concerned.

46. (Withdrawn) The program according to claim 43, further comprising a function of extracting sequential areas where the same value as a number assigned to some node is stored from the array, thereby specifying all child nodes of the node concerned.

47. (Withdrawn) A program for making a computer of building a tree data structure on a storage device execute:

a function of uniquely assigning sequentially varying integers to all nodes while starting from a root node; and

a function of defining parent-child relationship among nodes, wherein the function of uniquely assigning the integers to all the nodes comprises:

a function of selecting a mode for assigning numbers to nodes between a depth-first mode for assigning numbers to child nodes of a certain node earlier than nodes in the same generation as the certain node and a width-first mode for assigning numbers to nodes in the same generation as a certain node earlier than child nodes of the certain node;

a function of retrieving the nodes in the depth-first mode when the depth-first mode is selected, and assigning the numbers to the nodes in retrieval order; and

a function of retrieving the nodes in the width-first mode when the width-first mode is selected, and assigning the numbers to the nodes in retrieval order,

wherein the function of defining the parent-child relationship among the nodes

includes a function of storing numbers assigned to parent nodes in the storage device in the

order of numbers assigned to child nodes corresponding to the respective parent nodes.

48. (Withdrawn) The program according to claim 47, wherein the function of

defining the parent-child relationship among the nodes comprises:

a function of selecting a mode for defining the parent-child relationship among the

nodes between a child-parent expression mode for defining the relationship from a child node

to a parent node and a parent-child expression mode for defining the relationship from a

parent node to a child node;

a function of storing numbers assigned to parent nodes in the storage device in the

order of numbers assigned to child nodes corresponding to the respective parent nodes when

the child-parent expression mode is selected; and

a function of storing numbers assigned to child nodes in the storage device in the

order of numbers assigned to parent nodes corresponding to the respective child nodes when

the parent-child expression mode is selected.

49. (Currently Amended) A program for making a computer of converting an

expression form of a tree data structure represented by using parent-child relationship on a

storage device execute:

a function of defining the parent-child relationship by storing numbers assigned to

parent nodes in the storage device in the order of numbers assigned to child nodes

corresponding to the respective parent nodes;;

a function of calculating a generation number for each node in the tree data structure

expressed in a depth-first mode for assigning numbers to nodes in the same generation as a

certain node earlier than child nodes of the certain node, and a count of nodes belonging to each generation;

a function of determining numbers assigned to nodes in each generation on the basis of the count of the nodes belonging to each generation when the numbers are assigned in a width-first mode for assigning numbers to child nodes of a certain node earlier than nodes in the same generation as the certain node;

a function of creating a conversion array for converting the numbers assigned to the respective nodes in the depth-first mode to numbers to be assigned to the nodes in the width-first mode on the basis of the calculated generation number for each node and the determined numbers assigned to the nodes in each generation; and

a function of converting the parent-child relationship for each node to another parent-child relationship expressed by the numbers assigned to the nodes in the width-first mode by using the conversion array.

50. (Currently Amended) A program for making a computer of converting an expression form of a tree data structure represented by using parent-child relationship on a storage device execute:

a function of defining the parent-child relationship by storing numbers assigned to parent nodes in the storage device in the order of numbers assigned to child nodes corresponding to the respective parent nodes₋;

a function of counting a count of descendant nodes of each node in the tree data structure expressed in a width-first mode for assigning numbers to child nodes of a certain node earlier than nodes in the same generation as the certain node;

a function of creating a conversion array for converting the numbers assigned to the respective nodes in the width-first mode to numbers to be assigned to the nodes in a depth-

first mode for assigning numbers to child nodes of a certain node earlier than nodes in the same generation as the certain node, wherein the number to be assigned to current node is calculated by adding a count of older sibling nodes which originate from the same parent node as the current node and have been assigned their numbers earlier than the current node and a count of descendant nodes of the respective older sibling node to the number to be assigned to the parent node of the current node; and

a function of converting the parent-child relationship for each node to another parent-child relationship expressed by the numbers assigned to the nodes in the depth-first mode by using the conversion array.

51. (Currently Amended) A program for making a computer of converting an expression form of a tree data structure represented by using parent-child relationship on a storage device execute:

a function of defining the parent-child relationship by storing numbers assigned to parent nodes in the storage device in the order of numbers assigned to child nodes corresponding to the respective parent nodes;;

a function of retrieving nodes in a depth-first order from the tree data structure expressed in a width-first mode for assigning numbers to child nodes of a certain node earlier than nodes in the same generation as the certain node, and creating a conversion array for converting the numbers assigned to the nodes in the width-first mode to numbers to be assigned to the nodes in a depth-first mode for assigning numbers to nodes in the same generation as a certain node earlier than child nodes of the certain node; and

a function of converting the parent-child relationship for each node to another parent-child relationship expressed by the numbers assigned to the nodes in the depth-first mode by using the conversion array.

52. (Currently Amended) A program for making a computer of converting an expression form of a tree data structure represented by using parent-child relationship on a storage device execute:

a function of defining the parent-child relationship by storing numbers assigned to parent nodes as elements of a first array in the storage device in the order of numbers assigned to child node corresponding to the respective parent nodes;;

a function of counting an occurrence count of the numbers assigned to each node as an element of the first array;

a function of reserving consecutive locations corresponding to the counted occurrence count in the storage device as a second array in order to store numbers assigned to child nodes corresponding to each node; and

a function of successively reading the elements from the first array, and successively storing the numbers assigned to the child nodes corresponding to the elements in the first array as elements of the second array reserved for the nodes to which numbers having values equal to the read elements are assigned.

53. (Currently Amended) A computer for making a computer of converting an expression form of a tree data structure represented by using parent-child relationship on a storage device execute:

a function of defining the parent-child relationship by storing numbers assigned to child nodes as elements of a first array in the storage device in the order of numbers assigned to parent nodes corresponding to the respective child nodes;;

a function of reserving a second array in the storage device in order to store numbers assigned to the parent nodes corresponding to the respective child nodes in the order of the numbers assigned to the child nodes; and

a function of successively reading the elements from the first array and successively storing the numbers assigned to the parent nodes corresponding to the elements in the first array as elements of the second array reserved for the nodes to which numbers having values equal to the elements are assigned.

54. (Withdrawn) A computer-readable recording medium recorded with the program according to claim 37.

Claims 55-60 have been cancelled.